MAKING VISIBLE THE INVISIBLE

Developing innovative approaches for broadening participation in science, technology, engineering, and mathematics (STEM) continues to be an urgent matter for the Nation.

Data continue to show that although gains have been made by most demographic groups in most S&E disciplines, overall participation of women, underrepresented racial/ethnic groups, and persons with disabilities within STEM fields is still disproportionately low. The Committee on Equal Opportunities in Science and Engineering (CEOSE) is calling attention to broadening participation efforts through the action-focused theme ***Making Visible the Invisible***.[1] This broad theme serves to recognize that much of the work and understanding related to broadening participation and diversity, equity, inclusion and belonging remains unacknowledged, misunderstood, undervalued, and understudied. Through the ***2019-2020 CEOSE Biennial Report to Congress: Making Visible the Invisible — Bold Leadership Actions***, and future reports, CEOSE will make recommendations to bring to the forefront the knowledge, experiences, and perspectives so critical to realizing measurable systemic change to broadening participation.

WITHIN *MAKING VISIBLE THE INVISIBLE* THEME, THREE CONSECUTIVE CEOSE REPORTS WILL FOCUS ON

- **Inclusive excellence in leadership**
- **Critical issues in defining and understanding intersectionality**
- **Addressing challenges and associated opportunities to acknowledge and value severely underrepresented groups, such as persons with disabilities, neurodiverse individuals, Native Americans, individuals of LBGTQ communities, and other underserved communities**

It is NSF's responsibility to provide the ***"intellectual and scientific leadership to develop a truly inclusive STEM enterprise that fully and effectively engages all of our citizens."*** This begins with viewing broadening participation as a solution and not a problem.

SUMMARY

Broadening participation is not a problem to be fixed, but a critical strategy to promote and advance scientific research and learning that will develop a STEM workforce that is representative of all US citizens.

[1] Key recommendations from previous CEOSE reports include: a single recommendation for a bold new initiative to broaden participation (2011-2012); five proposed specific components of a plan for implementation of the new initiative, which became INCLUDES (2013-2014); a recommendation for an accountability framework for assessment of broadening participation activities (2015-2016); and a recommendation for inclusion of diverse voices across research and education portfolios at NSF (2017-2018).

BOLD LEADERSHIP ACTIONS

At a fundamental level, leadership includes behaviors that guide, influence, and mobilize others toward a common vision, goal, or objective.

For the 2019-2020 report, CEOSE is emphasizing leadership as it takes place in decision-making, relationship building and networking, the development of individuals to be leaders, and a willingness in all people to make hard decisions, serve as models and examples, accept responsibility, and be held accountable.

The NSF INCLUDES initiative is a visible example of commitment and emphasis placed on broadening participation. The National Network strives to bring other perspectives and participants into the NSF INCLUDES community, regardless of whether they have received NSF INCLUDES funding. And NSF's leadership further emphasized its commitment to broadening participation by naming the NSF INCLUDES initiative as one of NSF's 10 Big Ideas, championed by NSF's 14th director, Dr. France Cordova.

In 2020, the NSF welcomed its 15th director, Dr. Sethuraman Panchanathan. Continuing NSF's commitment to broadening participation, Director Panchanathan has explicitly addressed issues of broadening participation in articulating his vision, ***"The resources, funding, and different initiatives NSF is deploying to support inclusivity and broaden participation are the seeds for building a STEM community that reflects the whole nation. The alliances and networks that we are building to connect programs and share resources and best practices are key to strengthening these efforts and extending their reach. But the final piece is the need for leaders to institutionalize these efforts and make them self-sustaining cultures of inclusivity that are embedded within communities."***

Leadership is demonstrated through decisions, actions, and opportunities, at the organization and individual levels. Leadership matters because leaders make funding decisions, admit students to STEM graduate programs, decide when/if communities are invited to partner in NSF-funded projects, and determine if the microculture of their research teams is inclusive. In demonstrating its leadership and empowering leadership within its staff, advisors, and the communities it serves, NSF can do more to increase knowledge and awareness of invisibility issues in STEM communities, identify the participation and advancement of underrepresented groups in the scientific enterprise and acknowledge meaningful ***leadership*** actions for transformational change.

The ***2019-2020 CEOSE Biennial Report to Congress: Making Visible the Invisible — Bold Leadership Actions*** highlights recent activities and examples of NSF-funded projects and programs representative of inclusive excellence in leadership and suggests specific opportunities for NSF to strengthen its strategy to promote and advance scientific research and learning through visible leadership actions.

CEOSE recommends that NSF demonstrate and promote bold leadership actions to create, integrate and make visible elements within and across its programs to enhance broadening participation of underrepresented groups in STEM.

Please visit ***www.nsf.gov/od/oia/activities/ceose*** to view the full report.